

# HW #5: Dependency Parsing

# Dependency Parsing

- Goals
  - Learn about transition-based dependency parsing
  - Implement an arc-standard transition oracle
  - Apply your system to a corpus of English dependency parses

# Tasks

- Implement an arc-standard transition system
  - Takes a parser configuration—stack, buffer, arcs—and a transition
  - Produces an updated configuration
- Implement an oracle
  - Takes a gold-standard dependency parse
  - Determines and applies the correct sequence of transitions for the parse
    - As is done to create the training data
  - Outputs the transition sequence and resulting arcs
- Apply the oracle to a set of English dependency parses in CoNLL format

# Treebank Format

- Adapted from CoNLL 2007 format
- For each sentence, parses separated by “\n\n”:
  - <index>\t<word>\t<dependency\_relation>\t<head\_index>
  - E.g.:
    - 1 The det 2
    - 2 cat nsubj 3
- ROOT is index “0”
  - Only appears in head\_index column